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# LUMBAGO


- Lumbago is a general term used to describe pain in the lower back. It affects millions of Americans per year and can be caused by abnormalities in the spine, joints, muscles, or nerves of the lower back.
- Lumbago can be caused from several factors, but the main reason is the overuse of the lower back and the sudden lifting of a heavy load. Lumbago can be the result of excessive bending or other repetitive motions involving the lower back. Osteoarthritis and spinal arthritis (spondylosis) can be factors.

## 7 Ways to Manage Low Back Pain at Home

- Strengthen. Strong muscles, especially in your abdominal core, help support your back. ...
- Keep Good Posture. ...
- Maintain a Healthy Weight. ...
- Quit Smoking. ...
- Try Ice and Heat. ...
- Know Your OTC Medications. ...
- Rub on Medicated Creams



If pain remain for 6 weeks you need medical intervention

- NSAID
  - Acupuncture
  - Spainal manipolaton
  - Physical therapy
  - surgry
- 

# PHYSICAL THERAPY

- 1.Passive PT
- TENS
- US
- LAZER
- MAGNET
- ...

## Active PT

- EXS
- Manipulation
- Mobilization
- Massage

# EXS

- 1. McKenzie method exs
- 2. Williams flexion exs

# MCKENZIE EXS

- Who is Robin McKenzie
- Physical therapist from New Zealand
- Developed his treatment approach over the next 20 years



McKenzie's exercises are designed to reposition any displaced intervertebral discs and strengthen the surrounding muscles and structures to prevent re-injury.

## Goals of McKenzie exs

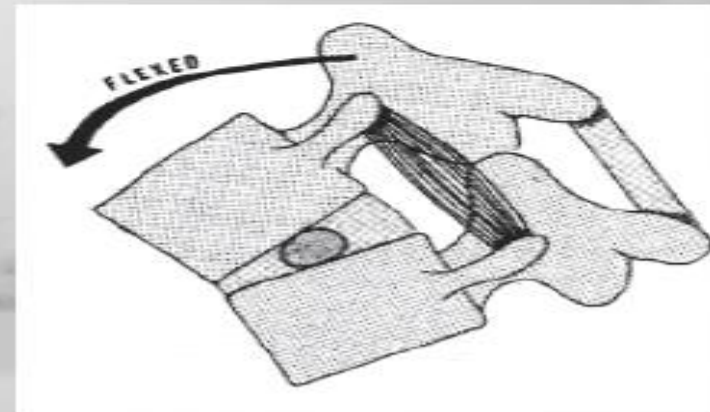
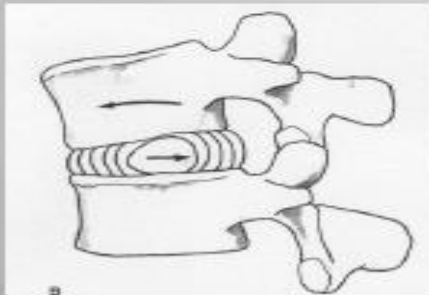
Reduce pain quickly  
Return to normal functioning in daily activities  
Minimize the risk of recurring pain (avoid painful postures and movements)  
Minimize the number of return visits to the spine specialist

## Predisposing Lifestyle Factors for Developing LBP

- Bad sitting posture
- Frequency flexion

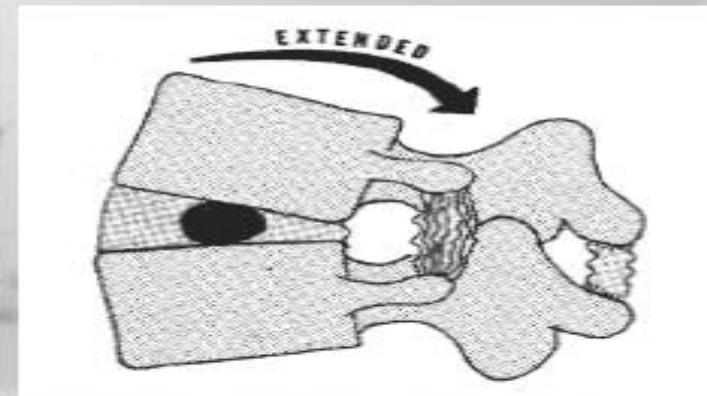
# Effects of Flexion on the Disc

- Anterior loading of the intervertebral disc
  - Compresses the anterior annular wall and stretches the posterior annular wall.
  - Posterior displacement of the nucleus pulposus.



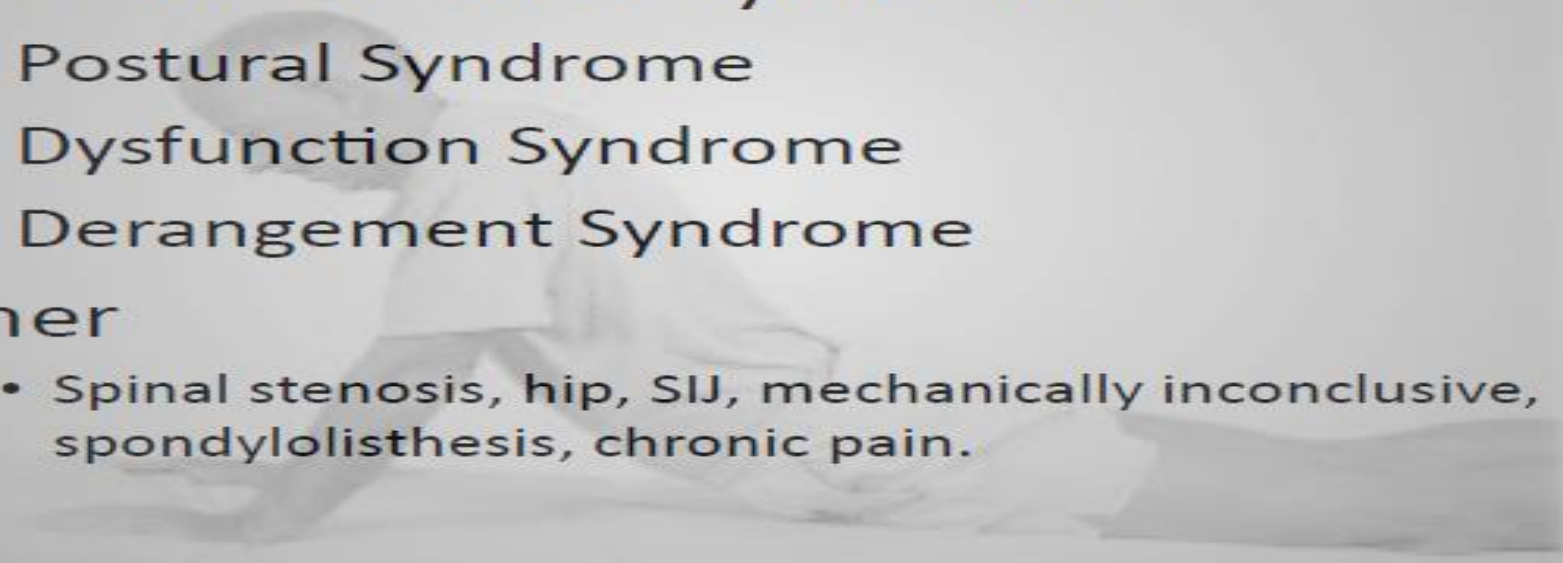
# Effects of Extension on the Disc

- Loading to the posterior aspect of the intervertebral disc
  - Compresses the posterior annular wall and stretches the anterior annular wall.
  - Anterior displacement of the nucleus pulposus.



# Classification of McKenzie Syndromes

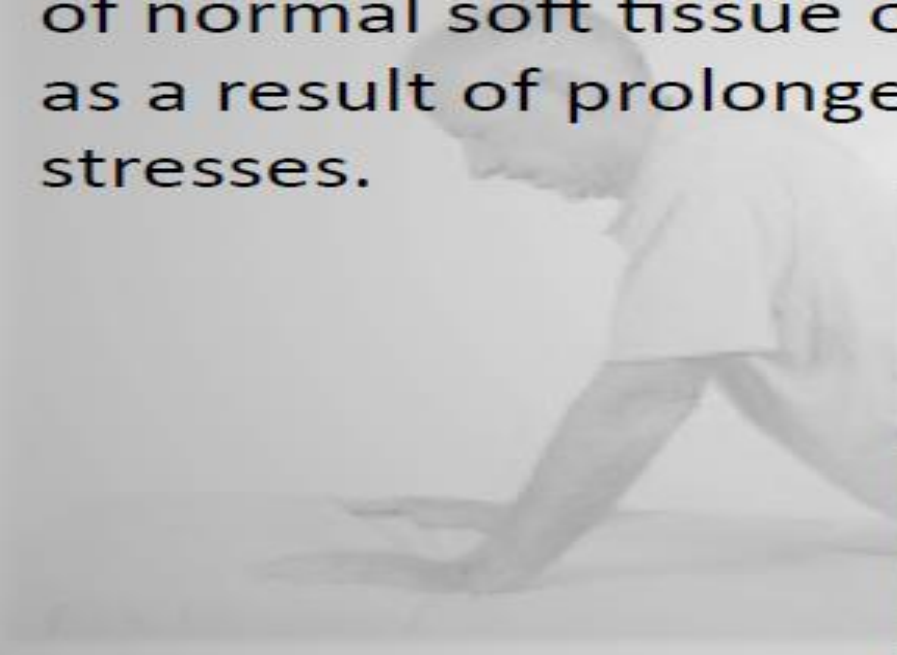
- Three Mechanical Syndromes
  - 1.) Postural Syndrome
  - 2.) Dysfunction Syndrome
  - 3.) Derangement Syndrome
- Other
  - Spinal stenosis, hip, SIJ, mechanically inconclusive, spondylolisthesis, chronic pain.





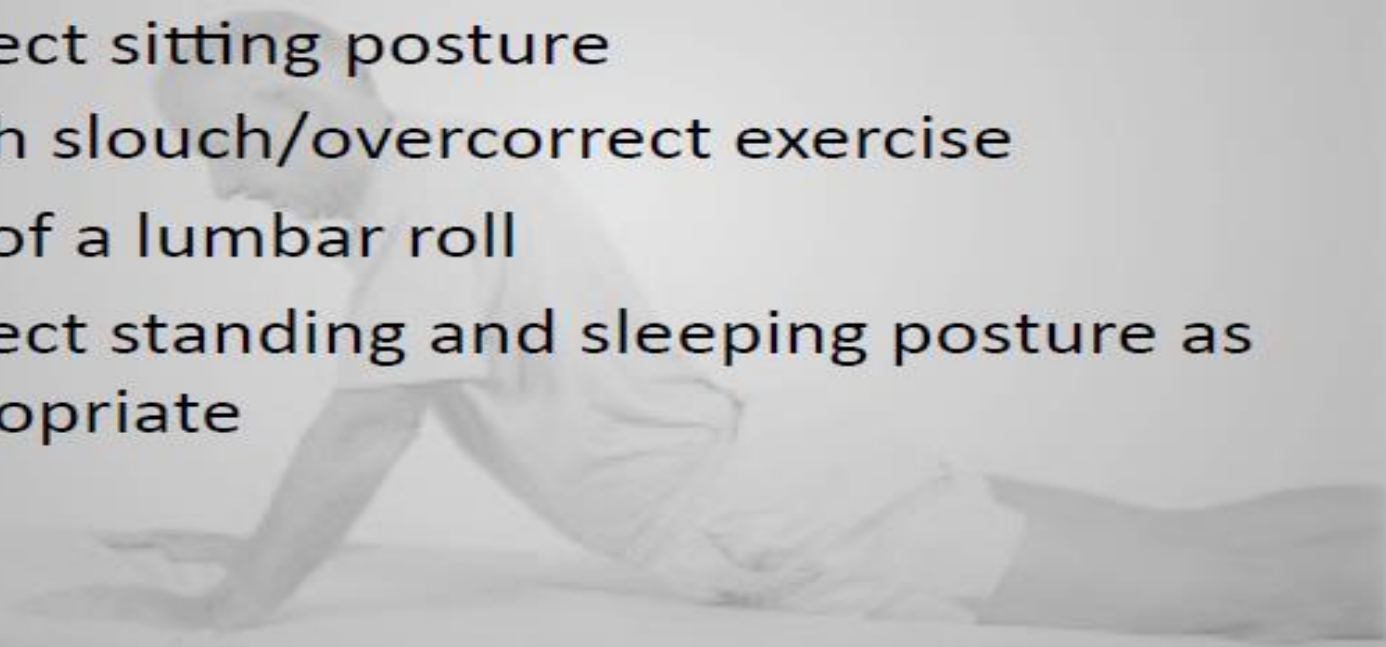
# The Postural Syndrome

- Pain is created from mechanical deformation of normal soft tissue or vascular insufficiency as a result of prolonged positional or postural stresses.



# Treating Postural Syndrome

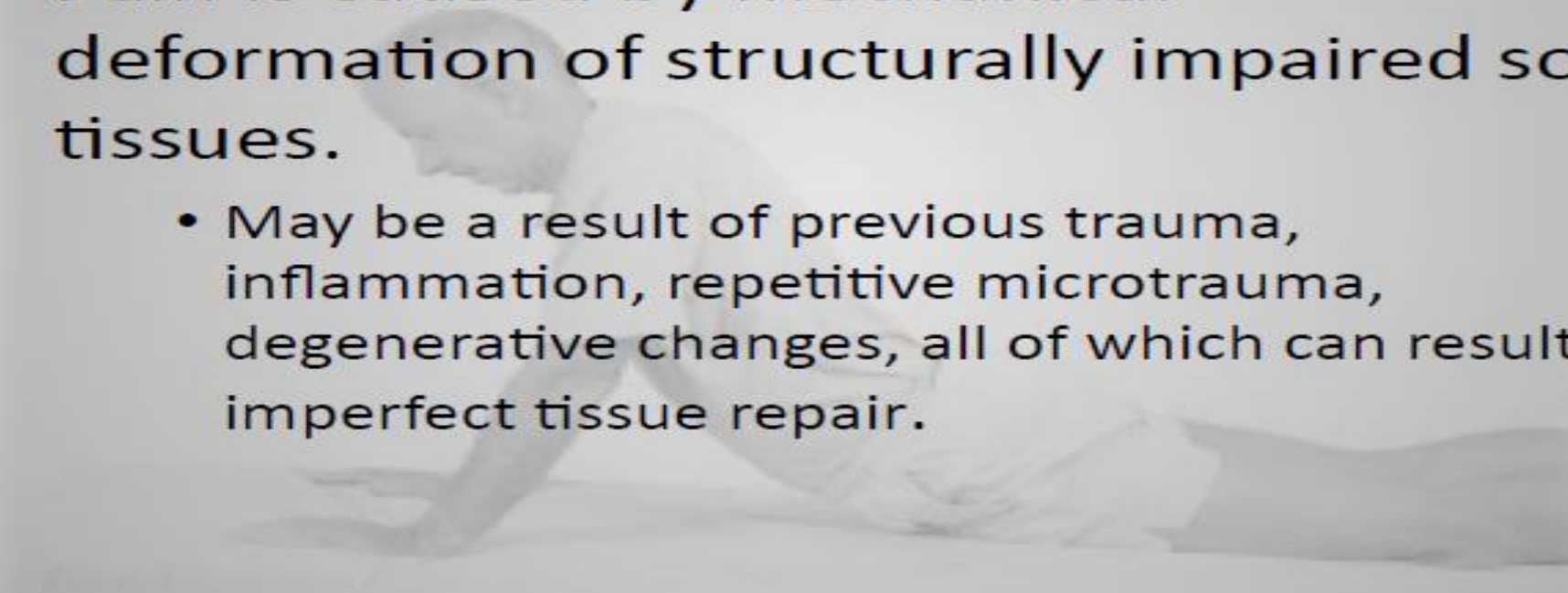
- Re-educate the patient
- Correct sitting posture
- Teach slouch/overcorrect exercise
- Use of a lumbar roll
- Correct standing and sleeping posture as appropriate





# The Dysfunction Syndrome

- Pain is caused by mechanical deformation of structurally impaired soft tissues.
  - May be a result of previous trauma, inflammation, repetitive microtrauma, degenerative changes, all of which can result in imperfect tissue repair.

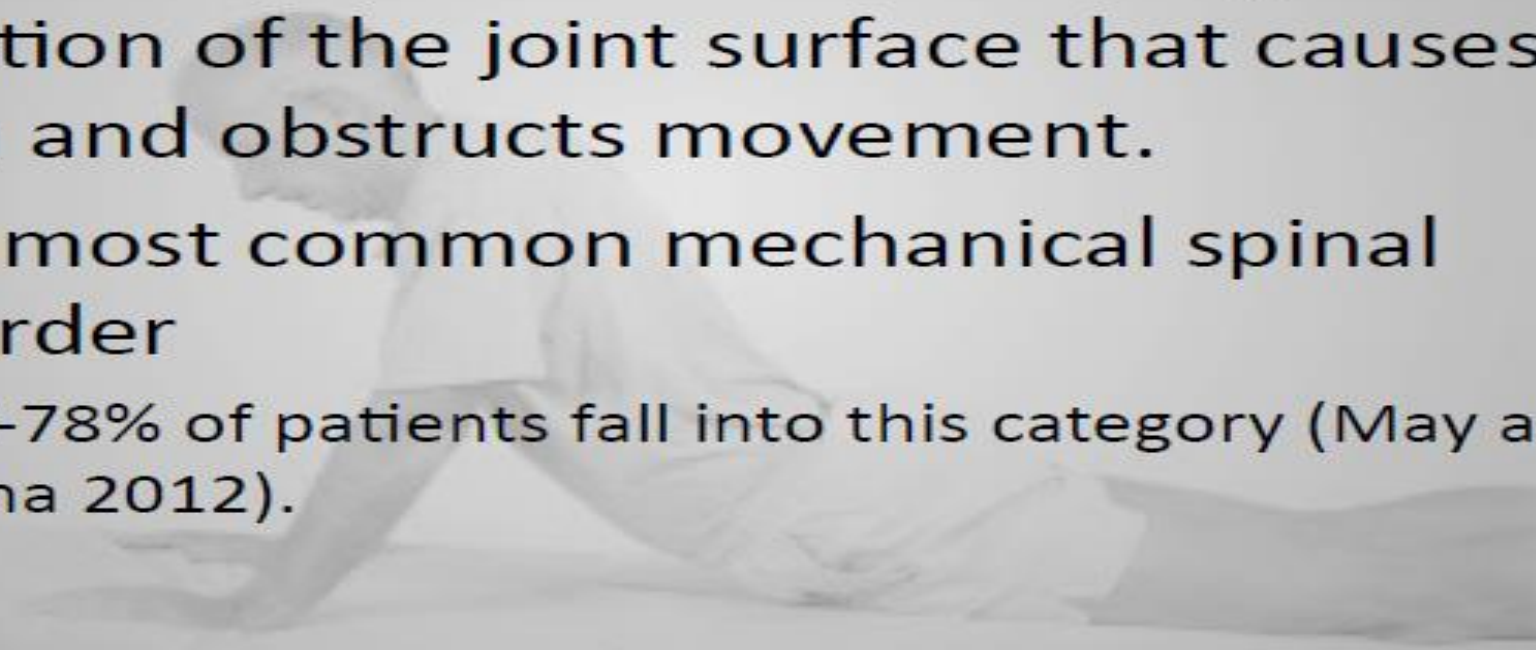


## Treatment for Dysfunction Syndrome

- Goal: Increase ROM by remodeling tissue (takes 4-6 weeks!)
- Teach posture correction
- Pain should stop shortly after exercises are completed
- Pain should never peripheralize
- Frequency: 10-12 repetitions every 2 hours of the day; 5-6 repetitions every 4 hours for older people.

# The Derangement Syndrome

- Disturbance in the normal resting position of the joint surface that causes pain and obstructs movement.
- The most common mechanical spinal disorder
  - 60-78% of patients fall into this category (May and Aina 2012).





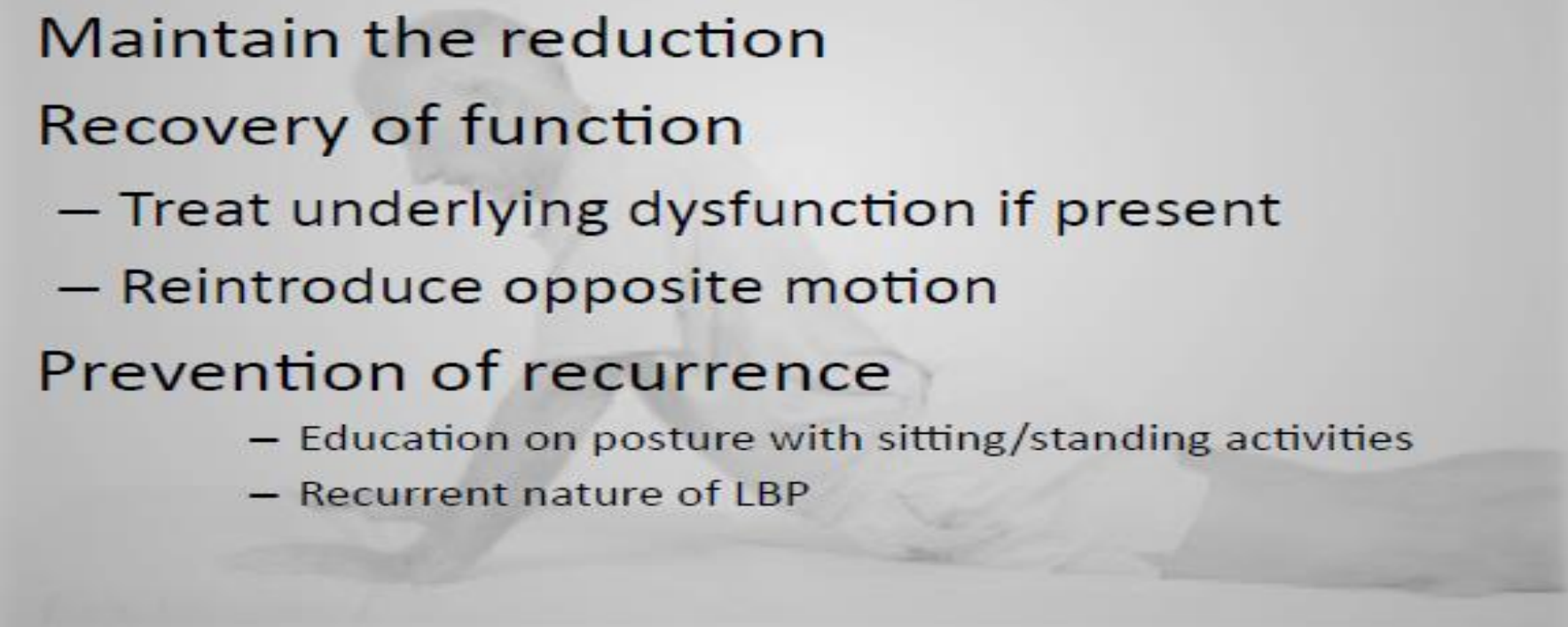
# Conceptual Model

- Annulus fibrosis – no innervation to the inner portion.
- Fissures develop over years of repetitive microtrauma.
  - First circumferentially, then radially
  - Nucleus becomes compromised
- Internal disc disruption and displacement occur
  - Pt becomes symptomatic



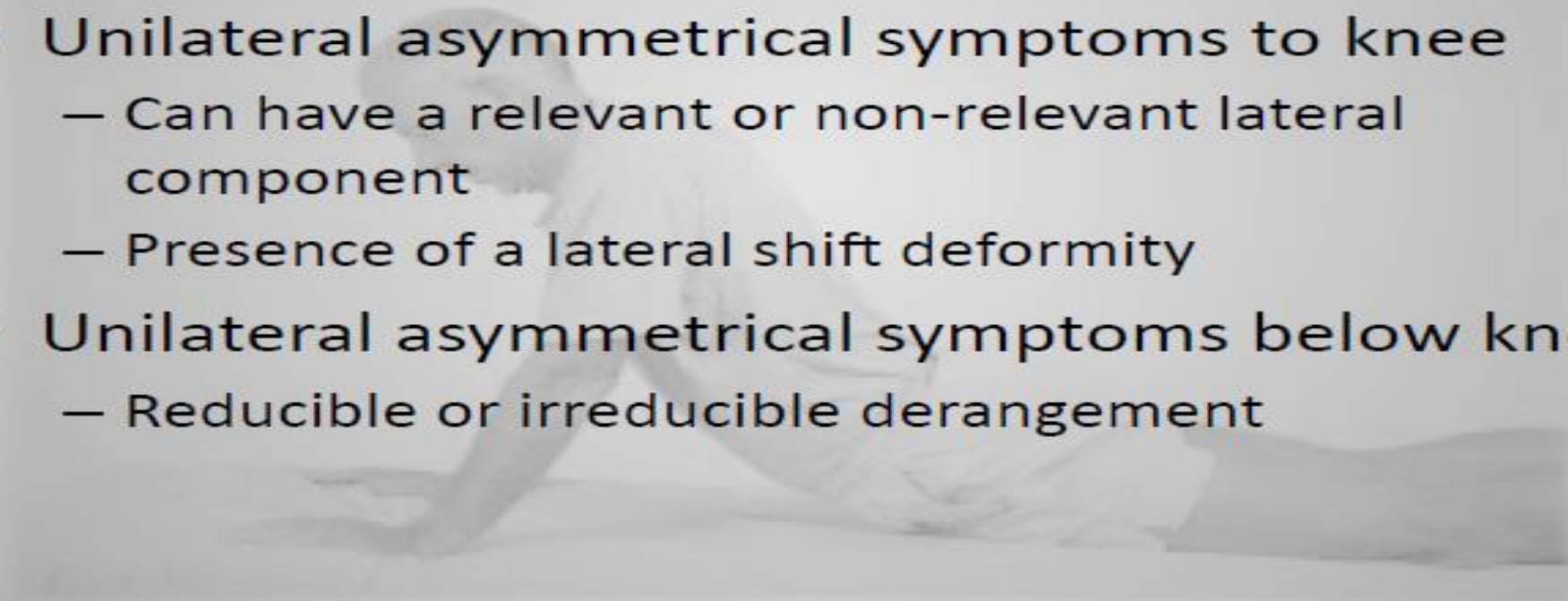
# Treatment of Derangement Syndrome

- Reduce the derangement
- Maintain the reduction
- Recovery of function
  - Treat underlying dysfunction if present
  - Reintroduce opposite motion
- Prevention of recurrence
  - Education on posture with sitting/standing activities
  - Recurrent nature of LBP



# Classification of Derangements

- Central symmetrical symptoms
- Unilateral asymmetrical symptoms to knee
  - Can have a relevant or non-relevant lateral component
  - Presence of a lateral shift deformity
- Unilateral asymmetrical symptoms below knee
  - Reducible or irreducible derangement





# McKenzie Exercises

25 PROCEDURES TO TREAT LOW  
BACK PAIN



## Procedure 1- Prone Lying

- Patient lies prone with their head turned to one side, arms by their sides, feet of the edge of the plinth or in IR.
- With an acute lumbar kyphosis, add pillows to accommodate the deformity as needed for pain.





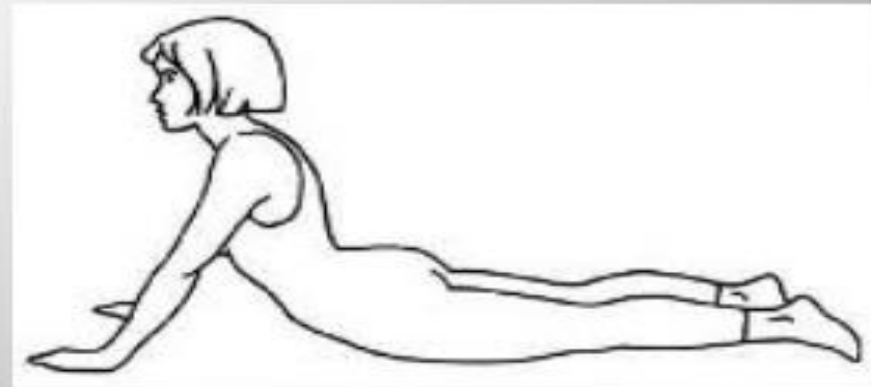
## Procedure 2- Prone Lying in Extension

- Patient lies prone on elbows, allowing the low back to be positioned in more extension.
- This position is sustained for 5 to 10 minutes.



## Procedure – Extension in Lying

- Progression of procedures 1 and 2
- Patient starts lying prone, hands palm down under their shoulders. Raise the top half of the body by straightening arms, return to lying prone. Repeat 10-15 times.
- Keep lower body relaxed
- Patient OP - Sag



## Procedure – Extension in Standing

- Patient stands with feet shoulder width apart, hands placed over low back with fingers pointing down.
- Patient leans back as far as possible, repeat 10 times.
- Not as effective as EIL but a good alternative.



## Williams Flexion Exercises

Williams flexion exercises focus on placing the lumbar spine in a flexed position to reduce excessive lumbar lordotic stresses. Exercises are designed to

- (1) strengthen the abdominal, gluteal, and quadriceps muscles
- (2) stretch the erector spinae, hamstring, and tensor fasciae latae muscles and iliofemoral ligament.



## GOALS OF WILLIAMS FLEXION EXERCISES

The goals of these exercises are to open the intravertebral foramina  
stretch the back extensors, hip flexors, and facets;  
strengthen the abdominal and gluteal muscles;  
mobilize the lumbosacral junctions.

## 1- Pelvic tilt exercises:

Lie on your back with knees bent, feet flat on floor. Flatten the small of your back against the floor, without pushing down with the legs. Hold for 5 to 10 seconds.

## 2- Partial sit-ups:

The athlete lies in "hooklying" position (supine with knees bent and feet flat). With hands behind his or her head, the athlete elevates the upper torso until the scapulae clear the resting surface and stress is placed on the rectus abdominus. After returning to the start position, the sit-up is repeated for a prescribed number of repetitions.

### 3- Knee-to-chest:

- Single Knee to chest. Lie on your back with knees bent and feet flat on the floor. Slowly pull your right knee toward your shoulder and hold 5 to 10 seconds. Lower the knee and repeat with the other knee. Double knee to chest. Begin as in the previous exercise. After pulling right knee to chest, pull left knee to chest and hold both knees for 5 to 10 seconds. Slowly lower one leg at a time.



#### 4- Hamstring stretch:

- Lying supine, the athlete places both hands around the back of one knee. The athlete straightens his or her knee and pulls the thigh toward his or her head so the hip goes into flexion. Williams believed that flexible hamstrings are necessary to accomplish full flexion of the lumbar spine. Although tight hamstrings limit lumbar flexion in standing with knee straight, we now know that tight hamstrings actually tilt the pelvis posteriorly and promote trunk flexion.

## 5- Standing lunges:

- This exercise actually results in some extension of the lumbar spine when performed properly. Nonetheless, it is a good stretching exercise for the entire lower extremity, especially the iliopsoas, which may be a perpetrator of low back pain if it is abnormally tight or in spasm. The athlete begins the forward lunge in a standing position with the feet shoulder width apart. He or she then takes a big step forward with the right leg and plants the foot out front, keeping the body relati

## 6- Seated trunk flexion:

- This exercise is performed by sitting in a chair and flexing forward in a slumped position. Maximum trunk flexion is obtained and direct stretching of the lumbosacral soft tissue structures occurs.

## 7- Full squat:

William's squat position is with the feet placed shoulder width apart, the hip and knees are flexed to the maximum available range of motion, and the lumbar spine is rounded into flexion. Upon reaching maximum depth, the athlete "bounces the buttocks up and down" 15 to 20 times, with 2 to 3 inches of excursion on each bounce, then repeats 3 to 4 times.



A. Pelvic tilt



B. Sit-up in knee flexion



C. Single knees to chest and double knees to chest to stretch the erector spinae



D. Seated reach to toes to stretch the hamstrings and erector spinae



E. Forward crouch to stretch the iliofemoral ligament



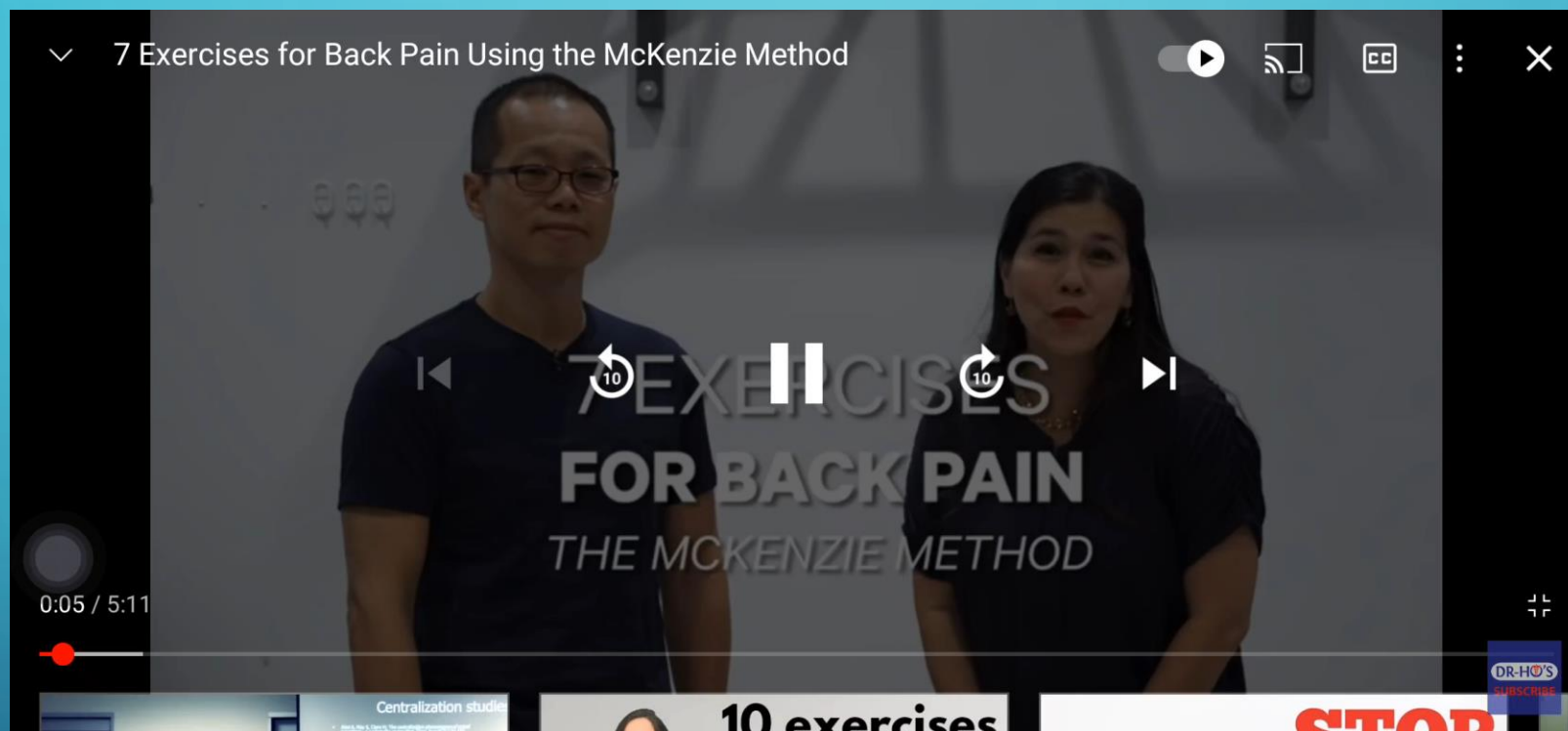
F. Seated flexion



a lot of doctors I am dr. Donald those  
are a championship

**Dr Donald A Ozello DC**





سپاس از توجه و همراهی شما سروران ارجمند

